

**REMARKS**

Reconsideration is respectfully requested.

Claims 38 through 43 and 46 through 66 remain in this application. Claims 1 through 37, 44 and 45 have been cancelled. No claims have been withdrawn or added.

**Paragraphs 2 through 4 of the Office Action**

Claims 38 through 43 and 46 through 66 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Harris in view of Valdespino.

The Response to Arguments portion of the pending Office Action states that:

Firstly, applicant argues that the Valdespino patent does not mention any of the alleged benefits of the casing that are set forth in the rejection and are asserted to motivate the modification (i.e., sealing the air bag from the environment or protecting the air bag assembly from dirt, debris, and other contaminants).

In response to this, the examiner contends that these "alleged benefits" used in her rejection were gleaned from the structure of the air bag 46 and housing of Valdespino. The examiner feels that the structural teachings of the enclosed air bag of Valdespino would teach one of ordinary skill in the art that encasing the air bag completely within the confines of the shock absorber assembly would protect it from the outside environment and that this motivation provided in the rejection would not be beyond the realm of one of ordinary skill in the art to ascertain from the reference.

As noted in the statement above, while the Examiner concedes that neither the Harris nor the Valdespino document contains any discussion of a problem for the flexible bladder with the environment, the obviousness rejection is based upon the assertion that the allegedly obvious combination of the selected elements of Harris and Valdespino would have been obvious to one of ordinary skill in the art based upon the contention in the rejection that "the structural teachings of the enclosed air bag of Valdespino would teach one of ordinary skill in the art that encasing the air bag completely

within the confines of the shock absorber assembly would protect it from the outside environment".

However, in the recent Supreme Court case of KSR International Co. v. Teleflex Inc. et al., 127 S.Ct 1727, at 1742 it was stated by the court that (all emphasis added):

One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims.

The Court further stated at 127 S.Ct at 1742 that (all emphasis and numerals added):

Under the correct analysis, any need or problem [1] known in the field of endeavor [2] at the time of invention and [3] addressed by the patent can provide a reason for combining the elements in the manner claimed.

It is submitted that the motivation set forth in the rejection (as a reason for the allegedly obvious combination relied upon) is not directed to a problem that has been shown to be 1) "known in the art" 2) "at the time of the invention" and 3) "addressed by the patent", as required by the Supreme Court in the KSR opinion. It is submitted that the Examiner cannot formulate a hypothetical "problem" to be solved that was not recognized in the prior art, especially problems that were not sought to be solved in the art that is being applied to the claims. It is submitted that the ability to formulate a hypothetical problem that is believed to be solved by the allegedly obvious combination, but is not of concern in the art being applied, is most likely the result of hindsight reconstruction of the art.

Further, the Response to Arguments portion of the pending Office Action states that:

Applicant next argues that there is nothing in the Harris patent that states that a purpose of the partial restraining sleeve is to "shield and protect" the flexible member, so the Valdespino casing does not disclose an alternative means to better shield and protect the air bag.

In response to this, again, the examiner contends that the structural teachings of the Valdespino reference in encasing the air bag within the housing would motivate one of ordinary skill in the art, when apprised of the Harris patent, to better protect the air bag from the harmful effects of the shock absorber operating environment. And while applicant is correct that the Harris patent does not make mention of his partial restraining sleeve shielding and protecting the flexible member present there, the fact remains that the sleeve would perform this function merely due to the nature of its construction. Therefore, since the Valdespino reference discloses a similar type of shock absorber assembly to that of Harris, the examiner maintains that the combination is still valid.

It is submitted that the line of argument that relies upon the "structural teachings" of the art amounts, at least in this case, to speculation as to reasons why one might make the allegedly obvious modification, without showing that one of ordinary skill in the art would be similarly inclined, since the problem that is being addressed by the asserted combination is not of concern to the art being relied upon. The Supreme Court recognized that while the allegedly obvious combination does not need to solve the same problem as the applicant, it should solve some problem "addressed by the patent".

The Response to Arguments portion also states that:

Next, applicant argues that the proposed modification of Harris with the selected feature of Valdespino eliminates the primary benefit of the Harris teaching (i.e., the creation of a "side acting force by use of a partial restraining sleeve that extends less than half way around the circumference of the air spring flexible member) for an alleged benefit that is not even mentioned in Valdespino. Applicant contends that nothing in the Valdespino patent suggests that there is a need to better shield and protect the bladder shown in Valdespino as alleged in the rejection. Applicant then surmises that an alleged alternative that eliminates the primary benefit expressed in the Harris patent is not a desirable or obvious alternative. Thusly, applicant concludes that modifying the Harris patent to include a housing member which completely encompasses the flexible member (as the examiner stated the Valdespino reference teaches) would eliminate this side acting force and would then teach away from the modification and thus completely eliminate the primary objection of the Harris patent.

In response to this, the examiner contends that the Valdespino reference is merely being relied upon to show that completely enclosing an air bag assembly within a housing is known and would provide an effective means of sealing the air bag from the environment. While the examiner recognizes that the Harris patent designs his restraining sleeve to create a side acting force, the teachings of Valdespino would merely lead one of ordinary skill in the art to the conclusion that completely enclosing the air bag is a possibility and would protect the air bag assembly from dirt, debris, and other such contaminants. Contrary to applicant's remarks, the examiner does not conclude that the Valdespino reference would teach away from the objective of the Harris patent, but instead provide an alternative means to better shield and protect the air bag.

As stated previously, even if one believes that the Valdespino patent leads one to attempt to solve an undisclosed problem with the environment of the Harris flexible member, the "solution" of the undisclosed problem would not motivate one of ordinary skill in the art to abandon one of the primary functions of Harris' "partial restraining sleeve". In other words, one of ordinary skill in the art does not abandon the known solution (the "partial restraining sleeve" creating "the side acting force") that "counteracts" and "prevents" known problems ("the bending torque acting on the strut during operation in a vehicle" and the "binding of the shock absorber piston" (see Abstract)) that are explicitly addressed in the patent, to solve a "problem" that is not even recognized in either of the documents of the combination.

As previously stated, one of ordinary skill in the art does not find it "obvious" to modify an apparatus (such as is set forth in the Harris patent) when that modification would destroy the purpose of the apparatus. (The primacy of the "side-acting force" to the purpose of Harris is discussed in further detail below.) The position of the applicant is that the proposed modification of Harris with the selected feature of Valdespino eliminates the primary benefit of the Harris teaching for an alleged benefit that is not even mentioned in Valdespino. Nothing in the Valdespino patent suggests that there is a need to "better shield and protect" the bladder shown in Valdespino (or a flexible member of the type shown in Harris) as alleged in

the rejection. It is therefore submitted that one of ordinary skill in the art would not abandon the structure of the Harris apparatus that achieves the express purpose of Harris for an alleged advantage that is not even mentioned in the Valdespino patent.

In greater detail, as previously noted, claim 38 requires, in part, "wherein the housing completely encloses the air-bag". Claim 46 includes the requirement of "wherein the housing abuts against substantially an entire circumference of the air-bag". Claim 47 requires in part "wherein the housing extends along and about an entire extended length of the air-bag".

It is submitted that one of ordinary skill in the art, considering the discussion in the Harris patent, would not be led to modify the Harris apparatus in the manner alleged to be obvious in the rejection. More specifically, Harris states in its Abstract that (emphasis added):

A vehicle suspension strut incorporating an airspring around a hydraulic shock absorber is disclosed. The unique airspring design and orientation relative to the shock absorber axis creates a side acting force which counteracts the bending torque acting on the strut during operation in a vehicle and prevents binding of the shock absorber piston. The horizontal side load is achieved using a partial restraining sleeve which circumferentially shrouds the flexible member of the airspring. The partial restraining sleeve extends less than half way around the circumference of the airspring flexible member and has a radius less than the fully inflated radius of the flexible member therby creating a restraining force on only one side of the flexible member of the airspring.

Thus, it is clear to one of ordinary skill in the art from the Abstract of Harris that the key function of the apparatus is the creation of a "side acting force", and also that the key to creating this side acting force is a "*partial restraining sleeve*" that "*extends less than half way around the circumference of the air spring flexible member*". It is submitted that this explicit discussion of the Harris patent would not lead one of ordinary skill in the art to the allegedly obvious modification of the Harris patent, and in fact teaches against any attempt to modify the Harris sleeve to adopt the

housing of Valdespino patent, or any attempt to “completely enclose” the flexible member of Harris, as this would eliminate the “side acting force” that is the center of the Harris apparatus. Further, Harris states at col. 1, lines 40 through 64 that (all emphasis added):

The object of this invention is to provide a suspension strut utilizing an airspring which generates side load compensating force. The force counteracts the bending torque created by the mass of the vehicle in operation and minimizes stiction in the hydraulic damper of the strut. This yields a softer ride. The airspring gives the ability to achieve variable spring rates as well as a constant vehicle height maintainable regardless of load by adjusting the internal pressure of the airspring portion of the strut. The side load compensating force is achieved by utilizing a partial restraining sleeve which restricts the radial expansion of the flexible member of the airspring around a limited portion of the circumference of the airspring. The partial restraining sleeve is positioned diametrically opposite to the line of action desired for the side load compensating force. The point of contact of the partial restraining sleeve to the flexible member is at a lesser distance from the strut axis than the unrestrained inflated radius of the flexible member of the airspring. This restraint of the flexible member on only a portion of its circumference creates a side load compensating force on the airspring portion of the strut thereby providing the ability to offset the bending torque exerted by the sprung mass of the vehicle in which the suspension strut is mounted.

It is submitted that this statement in the Harris patent that creation of the side load force is *the object* of the Harris system could only lead one of ordinary skill in the art away from the allegedly obvious modification set forth in the rejection. “Completely enclosing” the flexible member of the airspring, as it is alleged in the rejection that Valdespino teaches, would completely eliminate this primary objective of the Harris patent and its airspring. Harris includes other statements along these lines that will not be further discussed for the sake of brevity.

It is well established in the patent law that a proposed modification is not considered to be “obvious” if it renders the prior art structure unsuitable for its intended purpose. See MPEP §2143.01(V), where it is stated that:

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

It is submitted that any attempt to "completely enclose" the flexible member of Harris using the housing of Valdespino would eliminate the side acting force of the Harris structure (as the "side load" would be applied to all sides of the flexible member) and thus the eccentric loading of the flexible member achieved by the partial sleeve would be lost.

Further, it is noted that even the embodiment shown in Figure 4 of the Harris patent is discussed with a gap between a portion of the "can 71" and the flexible member 56. See, e.g., Harris at col. 6, lines 13 through 33 (emphasis added):

FIG. 4 is identical in all respects to FIG. 3 except that the detachable volume can 71 includes around its full circumference an annular volumetric cavity 76 around the flexible member 56. The volume can in this embodiment serves as a full circumference restraining cylinder and yet is detachable to change the effective volume of the internal working cavity 58 of the airspring. It is to be noted that the volume can may preferably be oval or oblong in radial cross sectional shape such that the restrained radius 80 is less than the unrestrained radius 82 where both radii are measured from the centerline 62. Thus the unrestrained radius 82 is equal to or greater than the inflated radius 84 of the flexible member 56, while the restrained radius 80 is less than the inflated radius 84 of the flexible member 56. This configuration yields a side load force F normal to the center of the contact area 86 between the flexible member 56 and the restraining radius side 90 of the volume can 71. This side 90 serves as a partial restraining sleeve as described in other embodiments.

Indeed, it is submitted that the partial restraint--which is the primary and singular thrust of the Harris patent--could only lead one of ordinary skill in the art away from the modification of the Harris apparatus that is proposed in the rejection of the Office Action.

It is therefore submitted that the cited patents, and especially the allegedly obvious combination of Harris and Valdespino set forth in the

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rejection of the Office Action, would not lead one skilled in the art to the applicant's invention as required by claims 38, 46 and 47. Further, claims 39, 43, 48 and 49, which depend from claim 38, claims 40 and 41, which depend from claim 39, claim 42, which depends from claim 41, claims 50, 51 and 53, which depend from claim 49, claim 52, which depends from claim 51, claims 54 and 55, which depend from claim 46, claims 56, 57 and 59, which depend from claim 55, claim 58, which depends from claim 57, claims 60 and 61, which depend from claim 41, claim 62, 63 and 65, which depend from claim 61 and claim 64, which depends from claim 63 also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

Withdrawal of the §103(a) rejection of claims 38 through 43 and 46 through 66 is therefore respectfully requested.

### CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

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